

285.069

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: :
Nipun Gopaldas GUPTA :
Serial No.: :
Filed: Concurrently Herewith :
For: AIR CONDITIONERS :

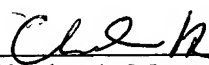
PRIORITY DOCUMENT(S)

Hon. Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

With respect to the above-captioned application, Applicant(s) claim the priority of
the attached application(s) as provided by 35 U.S.C. 119.

Respectfully submitted,
Muserlian, Lucas and Mercanti



Charles A. Muserlian, 19,683
Attorney for Applicant(s)
Tel. # (212) 661-8000

CAM:sd

Enclosure: Certified Priority Document(s)
Indian Patent Application No. 832/MUM/2002 filed September 20, 2002
Indian Patent Application No. 833/MUM/2002 filed September 20, 2002
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THE PATENTS ACT, 1970

IT IS HEREBY CERTIFIED THAT, the annex is the true copy of application and provisional specification filed on 20.09.2002 in respect of patent application no. 832/MUM/2002 of Videocon International Limited of Auto cars compound Adalat Road, Aurangabad 431 005, Maharashtra, India, an Indian company.

This certificate is issued under the powers vested in me under Section 147(1) of the Patents Act, 1970.

.....
Dated this 2nd day of July 2003


(N. K. GARG)

ASST. CONTROLLER OF PATENTS & DESIGNS

FORM-1.

THE PATENTS ACT, 1970

(39 OF 1970)

APPLICATION FOR GRANT OF A PATENT

(See sections 5(2), 7, 54 and 135 and rule 33A)

1. We, VIDEOCON INTERNATIONAL LIMITED of Auto Cars Compound,
Adalat Road, Aurangabad 431 005, Maharashtra, India, an
Indian Company,



ORIGINAL

2. hereby declare :-

(a) that we are in possession is an invention titled AIR CONDITIONERS

(b) that the Provisional/Complete specification relating to this invention is filed with this application

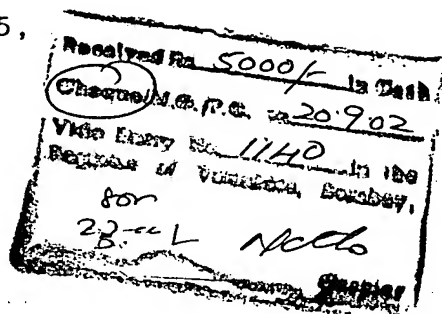
832/MUM/2002

- (c) that there is no lawful ground of objection to the grant of a patent to us.

3. further declare that the inventor(s) for the said invention is/are :

20 SEP 2002

NIPUN GOPALDAS GUPTA
of Videocon International Ltd.,
Auto Cars Compound,
Adalat Road, Aurangabad 431 005,
Maharashtra, India
an Indian National



832/mum/2002

20.9.2002

4. I/We, claim the priority from the application(s) filed in convention countries, particulars of which are as follows :

(a) [Country]

(b) [Appln.No.]

(c) [Date of Appln.]

N . A .

(d) [Applicant in Convention Country]

(e) [Title]

5. I/We state that the said invention is an improvement in or modification of the invention, the particulars of which are as follows and of which I/We are the applicant/patentee :

(a) Application No.

N . A .

(b) Date of application

6. I/We state that the application is divided out of my/our application, the particulars of which are given below and pray that this application deemed to have been filed on _____ date under section 16 of the Act.

(a) Application No.

N . A .

(b) Date of filing of provisional specification :

and date of filing of complete specification :

7. That ~~X~~^Y I/We are the assignee or legal representative of the true and first inventors.

8. That ~~my~~^Y our address for service in India is as follows : **R.K. DEWAN & COMPANY**, Trade Marks & Patents Attorneys, 78, Podar Chambers, S.A.Brelvi Road, Fort, Mumbai 400 001, Maharashtra, India, Tel. (91) 22-2661662/2663002, Telefacsimile number (91) 22-2650159, Email>rkdeewan@vsnl.com.



I/We the true and first inventors for this invention or the applicant(s) in the conventional country declare that the applicant(s) herein is/are my/our assignee or legal representative :

Nipun Gupta
(MR. NIPUN GOPALDAS GUPTA)

10. That to the best of my/our knowledge, information and belief the fact and matters stated herein are correct and that there is no lawful ground of objection to the grant of patent to me/us on this application



11. Following are the attachment with the application :

(a) Provisional/~~Complete~~ specification (3 copies)

(b) Drawings (3 Copies)

(c) ~~Priority document(s)~~

(d) Statement of Undertaking on FORM-3

(e) Power of authority

(f)

(g)

(h)

(i) Fee Rs. In cash/cheque/bank draft bearing No.

date

on

Bank

X/We request that a patent may be granted to ~~me~~us for the said invention.

Dated this 19th day of September 2002

for VIDEOCON INTERNATIONAL LTD.,

Signature :

Nipun Singh

Name : MR NIPUN GOPALDAS GUPTA

To :

The Controller of Patents

The Patent Office

at MUMBAI



FORM - 2

THE PATENTS ACT, 1970

PROVISIONAL

Specification

SECTION - 10

ORIGINAL

AIR CONDITIONERS

VIDEOCON INTERNATIONAL LIMITED,
of Auto Cars Compound, Adalat Road, Aurangabad 431 005,
Maharashtra, India,
an Indian Company

THE FOLLOWING SPECIFICATION DESCRIBES

THE NATURE OF THIS INVENTION:-

832 | मुंबई | 2002
MUM

20 SEP 2002

This invention relates to air conditioners and typically to air conditioners known as split air conditioners having an indoor unit and an outdoor unit cooperating with each other via ducting and piping.

A major concern in air conditioning system is the running cost and there is constant endeavor to conserve energy.

Air Conditioners can be broadly termed as devices which facilitate heat exchange from/to a closed environment/space.

Traditionally low tonnage systems are air-cooled and high tonnage systems are water-cooled i.e. the use of air/water to cool the refrigerant is already an established concept.

In the case of low tonnage systems a Reciprocating/ Rotary Compressor is used, typically where the Pressure of Suction and Discharge is in equilibrium at 75/300 PSI respectively. In these air cooled system a blower fan typically blows ambient air through the coils which are typically straight or 'L' shaped. The relative difference in the temperatures between the ambient and the compressed refrigerant causes the refrigerant to cool down.

For the Refrigerant R-22 the ideal performance is derived at 69/215 psi suction/discharge pressure which is not achievable in air cooled systems.

Such a system if engineered would be more efficient than the traditional systems and also provide saving in energy consumption.

An object of this invention is to provide an air conditioning system which will give a suction pressure of 65 to 70 psi and discharge pressure of 210 – 225 psi.

Another object of this invention is to provide an air conditioning system in which there is considerable power conservation.

The objects of this invention are achieved by using a D or O shaped coil in the condensor unit and locating the fan approximately axially and at a location above or near the top of the coil. In accordance with a practical embodiment of this invention a D-COIL can be used which is made with 3/8 INCH SINGLE ROW tubes WITH 16FPI PCM AL FINS.

Operating the fan in suction mode will cause air to be sucked in through the base and the sides of the coil and the air dynamics follows a natural convention current path. In accordance with the system of this invention there is significant increase of air displaced through the condensor coils per unit time and there is also increased contact between the displaced air and the coils and fins.

The cooling of the condensor can be used in addition to or an adjuvant to a water cooled system.

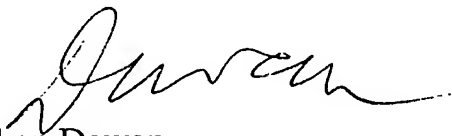
The results obtainable from using the features of this invention at conditions of 35 degrees celsius ambient are typically as under :

1. SUCTION PRESSURE 65PSI
 2. DISCHARGE PRESSURE 240 PSI
 3. COMPRESSOR CURRENT 6.5 A AGAINST STD 9.5 A
 4. TOTAL CURRENT OF SYSTEM 8A
 5. TOTAL SYSTEM WATTAGE 1650 AGAINST 1950 STD
 6. TRIP RATIO(COMPRESSOR ONTIME 55% AGAINST 60% STD
-
1. The system of this invention delivers significantly improved cooling and an accelerated cooling rate and a capacity of 100% of 18000 BTU + PLUS
 2. The system of this invention saves over 20% in power consumption.
 3. The condensor coil size is reduced as a single row coil is used with less height.
 4. The sheet metal body weight is reduced as the unit becomes more compact.
 5. Motor cost is reduced as lower wattage is used so also the size of the propeller fan is reduced

While the present invention has been described herein with reference to a specific embodiment thereof, it is contemplated that the present invention is not limited thereby and various changes and modifications may be made therein for those skilled in the art without departing from the scope of the invention. For instance,

further improvements are possible by varying capillary length and bore.

Dated this 19th day of September, 2002

A handwritten signature in cursive script, appearing to read 'Mohan Dewan', written in black ink.

Mohan Dewan

Of R. K. Dewan & Co.,
Applicants' Patent Attorney.

